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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,077	06/20/2002	Patrick Fleming	47968/DBP/S307	7257

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EXAMINER

YAM, STEPHEN K

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 02/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

LM

Office Action Summary

Application No.

10/070,077

Applicant(s)

FLEMING ET AL.

Examiner

Stephen Yam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 0302.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claims 1 and 3 are objected to because of the following informalities:

In Claim 1, line 1, "the speed and twist rate" lack proper antecedent basis.

In Claim 1, line 4, "detector means" should be changed to "detection means" for consistency.

In Claim 1, line 6, "the outputs" lacks proper antecedent basis.

In Claim 1, line 6, "of" should be added after "the outputs".

In Claim 1, line 6, "the actual speed" lacks proper antecedent basis.

In Claim 1, line 10, "the source" lacks proper antecedent basis.

In Claim 1, line 10, "a varying shadow" lacks proper antecedent basis, as it is unclear whether the shadow is the same varying shadow as defined in line 5.

In Claim 1, line 11, "the detection means" lacks proper antecedent basis.

In Claim 1, line 12, "the processing means" lacks proper antecedent basis.

In Claim 1, line 14, "the outputs" lacks proper antecedent basis.

In Claim 3, line 1, "the speed and twist rate" lack proper antecedent basis.

In Claim 3, line 5, "the actual speed" lacks proper antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Massen US Patent No. 4,887,155.

Regarding Claim 1, Massen teaches (see Fig. 1) an apparatus for detecting a twist rate in a cable (10) having at least two twisted elongate elements (see Col. 1, lines 12-16) and traveling along a predetermined path (see Fig. 1), the apparatus comprising a first sensor (left part of (26) and left part of (12)) having a light source (left part of (26) providing light that enters left part of (12)) and detection means (left part of 2-D camera (12)) positioned about said path so that the cable interrupts the light path from the light source to the detection means to cast a varying shadow (see Col. 5, lines 18-20) on the detection means as the cable travels along the predetermined path, and means for processing (16, 18, 20) outputs of the detection means with an actual speed (v) of the cable to determine the actual twist rate for the cable (see Col. 5, lines 30-34), characterized by a second sensor (right part of (26) and right part of (12)) spaced apart along said path a predetermined distance from said first sensor (see Col. 2, lines 41-44), the second sensor having a light source (right part of (26) providing light that enters right part of (12)) and detection means (right part of 2-D camera (12)) positioned about said path so that the cable intercepts the light path from the source to the detection means to cast a second varying shadow (light blocked by right part of (10)) (see Col. 5, lines 18-20) on the detection means as the cable travels along the predetermined path. Regarding Claim 3, Massen teaches (see Fig. 1) a method for detecting a twist rate in a cable (10) having at least two twisted elongate elements (see Col. 1, lines 12-16) and traveling along a predetermined path (see Fig. 1), the method

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comprising the step monitoring the variation in profile (see Col. 5, lines 37-40) of the cable as it passes a first location (left range of (12)) along said path to provide a first measurement signal (outputs from left pixels of (12)) and processing the first measurement signal with a signal to determine the twist rate (see Col. 5, lines 30-34) characterized by the step of monitoring the variation in profile of the cable (see Col. 5, lines 37-40) as it passes a second location (right range of (12)) along said path spaced a predetermined distance from said first location to produce a second measurement signal (outputs from right pixels of (12)), and processing (20) the first and second measurement signals. Massen does not teach producing a signal representative of the actual speed of the cable- however, Massen teaches taking consecutive images while the cable is moving (see Col. 5, lines 37-40)- since speed is inherently the distance of movement over a specified time period (time between images), it is well known in the art to use consecutive images in order to determine traversed distance, and therefrom, determine the speed of a moving object. It would have been obvious to one of ordinary skill in the art at the time the invention was made to produce a signal representative of the actual speed of the cable in the method of Massen, to control the rate and lengths of produced cable and increase the reliability of the twist rate measurements.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Massen in view of Pijls US Patent No. 3,594,755.

Regarding Claim 2, Massen teaches the apparatus in Claim 1, according to the appropriate paragraph above. Massen does not teach a filter for each sensor, having a passband based around a frequency corresponding to the speed of the cable along said predetermined path.

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Pijls teaches (see Fig. 5) a similar device with a sensor (2, 9, 10) to determine the actual speed of a cable (1) (see 2, lines 73-75 and Col. 3, lines 39-43 and 53-56), the sensor having a filter (2) having a passband based around a frequency corresponding to the speed of the cable along the predetermined path (see Col. 2, lines 69-75). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a filter having a bassband based around a frequency corresponding to the speed of the cable along the predetmermined path, as taught by Pijls for each sensor in the apparatus of Massen, to provide a secondary cable speed detection system from the detection of projecting fibers in Massen (see Col. 5, lines 35-36 and Fig. 2) to reduce unwanted signal components to improve the speed detection, as taught by Pijls (see Col. 1, lines 9-12, 52-56, and Col. 2, lines 70-75).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kato US Patent No. 4,399,648, teaches detecting the twist rate of a cable with a first and second sensor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Yam whose telephone number is (571)272-2449. The examiner can normally be reached on Monday-Friday 8:30am-5pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on (571)272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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THANH X. LUU
PATENT EXAMINER